PLASTIC RECYCLING

The present invention relates to recycling and more particularly, relates to a recycling of plastic materials.

Recycling of glass material is well known in the art and is widely practiced in the industry. Large supplies of glass material come from containers used for liquids - i.e. soft drinks and the like and as well, from the windshields of scrapped vehicles.

In recovering the glass from windshields of scrapped vehicles, the windshield yields a plastic material which normally forms an intermediate layer of the windshield. This material is a polyvinyl butyral polymer. The polyvinyl butyral polymer may be in combination with other compounds such as tetraethylene-glycol. The plastic materials removed from the windshields have, to date, been stocked piled as they have not been used for any other purposes.

It is therefore an object of the present invention to provide a process to recycle the plastic material from windshields.

According to one aspect of the present invention, there is provided a method for recovering energy from windshields, the method comprising the steps of separating a polyvinyl butyral polymer from glass in the windshield, and using the polyvinyl butyral polymer as a fuel and an energy creating plant.

In a further aspect of the present invention, there is provided a method for recycling a polyvinyl butyral polymer from glass in a windshield, a method comprising the step of recovering the polyvinyl butyral polymer from a windshield glass by dissolving the polyvinyl butyral polymer in a solvent comprising a combination of acetone and isopropanol, and thickening the material to a desired consistency for

subsequent use as an adhesive.

In a greater detail, the present invention utilizes the polyvinyl butyral polymer material from a windshield by extracting the same from a mixture of the glass and polymer. The method comprises utilizing a solvent and which solvent may be acidic acid or acetone or other suitable material. In a preferred embodiment, a combination of acetone and isopropanol is utilized.

Following the extraction of the polyvinyl butyral polymer, the solution may be thickened to the desired consistency and used as an adhesive in wood products. In particular, the recycled polymer may be used as an adhesive agent in composite wood products such as plywood, presswood, and the like.

Alternatively, the material may be used as a fuel in an energy creating plant to replace fossil fuels. The polymer presents the advantage in that it is readily utilizable as a fuel and is relatively non polluting. As such, it could replace carbon based fuels such as coal which do have substantial environmental pollution problems.

It will be understood that the above described embodiments are for purposes of illustration only and that changes or modifications may be made thereto without departing from the spirit and scope of the invention.